Flanders® PRECISIONAIRE
FOREMOST IN AIR FILTRATION

Rigid-Air

Spun Glass or Synthetic Media Rigid Filter

Bulletin PB1001-1106

General

Rigid-Air extended media surface rigid filters are designed for use in most commercial or industrial HVAC systems where medium to high efficiency filtration is required.

They feature your selection of media backed with expanded metal and pleated. The pleats are held in place by rigid pleat separators, available in either plastic or metal styles on 12"depth filters. 6" depth filters feature rugged fiberboard separators. Rigid-Air is available in two media types: lofted fiberglass and micro-fine synthetic with average efficiency ranges of 50-55%, 60-65%, 80-85% and 90-95% per ASHRAE Standard 52.1 and MERV 10-14 per ASHRAE Standard 52.2.

These filters are especially suitable for variable air volume systems. Operating face velocity ranges are from 0 to 375 fpm for 6" deep filters, and from 0 to 675 fpm for 12" deep filters. Two frame styles are available: a single header model and a box type without header. Rigid-Air filters are UL 900 Class 2 listed. Optional Class 1 listed are available with metal inserts and fiberglass media.

Installation Considerations

Rigid-Air filters may be installed in Astr Holding Frames, K-Trac Filter Framing Modules, Sureseal Side Access Housings or in similar existing hardware.

The headered version should be selected for use with the hardware listed. If the filter is to be installed so that it protrudes upstream of the holding frame, the box style filter is required.

Physical Data

Frame: 24 ga. corrosion-resistant steel doubleturned flange makes a stronger frame.

Media: Lofted fiberglass or micro-fine synthetic.

Media Supports: Expanded metal grid with metal or plastic pleat separator.

Face Grid: Horizontal and diagonal metal supports.

Header: 13/16" wide 26 ga. corrosion-resistant steel.

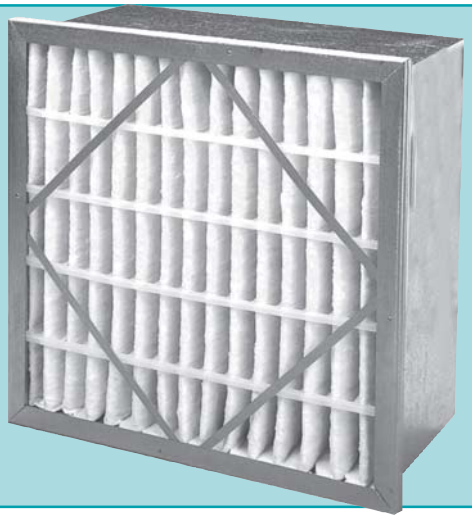
Operating Limits: 180° F 100% RH%.

Actual Header or Box Filter Face Size: Nominal size less 5/8" (e.g., a nominal 24" x 24" filter is actually 23 3/8" x 23 3/8").

Actual Depth: 5-7/8" or 11-1/2".

Important Features

- Ecologically advanced filtration medium made entirely from recycled materials.
- Rugged corrosion-resistant steel casing minimizes damage during shipping and handling.
- Lofted fiberglass micro-fine or synthetic media is held in position by upstream and downstream plastic or metal pleat supports.
- Units are available with or without header.
- Filters are completely rigid.
- MERV 10-14



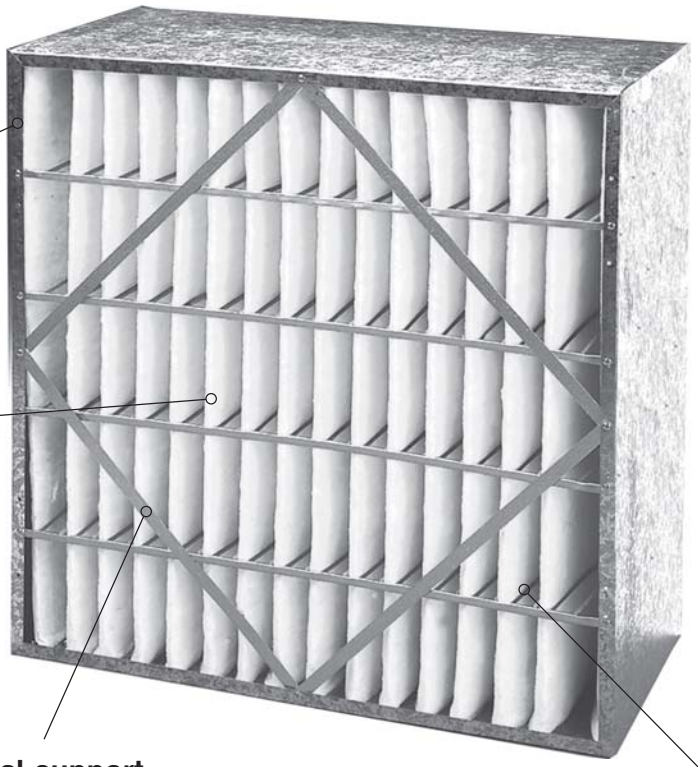
Rigid Air Performance (Synthetic Media)

Nominal Size Inches WxHxD	Air Flow Capacity (CFM) 12" @ 500 FPM 6" @ 250 FPM	Box Style		Header Style	
		Media Area Sq. Ft.	Resistance. "w.g.	Media Area. Sq, /Ft.	Resistance "w.g.
90-95%					
24x24x12	2000	58	.55	50	.65
12x24x12	1000	28	.55	25	.65
20x24x12	1650	47	.55	40	.65
20x20x12	1400	39	.55	33	.65
16x20x12	1100	33	.55	33	.65
16x25x12	1400	41	.55	41	.65
24x24x6	1000	29	.45	25	.50
12x24x6	499	14	.45	13	.50
20x24x6	830	24	.45	21	.50
20x20x6	700	19	.45	17	.50
16x20x6	550	17	.45	17	.50
16x25x6	700	24	.45	24	.50
80-85%					
24x24x12	2000	58	.44	50	.52
12x24x12	1000	28	.44	25	.52
20x24x12	1650	47	.44	40	.52
20x20x12	1400	39	.44	33	.52
16x20x12	1100	33	.44	33	.52
16x25x12	1400	41	.44	41	.52
24x24x6	1000	29	.35	25	.40
12x24x6	499	14	.35	13	.40
20x24x6	830	24	.35	21	.40
20x20x6	700	19	.35	17	.40
16x20x6	550	17	.35	17	.40
16x25x6	700	24	.35	24	.40
60-65%					
24x24x12	2000	58	.31	50	.36
12x24x12	1000	28	.31	25	.36
20x24x12	1650	47	.31	40	.36
20x20x12	1400	39	.31	33	.36
16x20x12	1100	33	.31	33	.36
16x25x12	1400	41	.31	41	.36
24x24x6	1000	29	.21	25	.27
12x24x6	499	14	.21	13	.27
20x24x6	830	24	.21	21	.27
20x20x6	700	19	.21	17	.27
16x20x6	550	17	.21	17	.27
16x25x6	700	24	.21	24	.27
50-55%					
24x24x12	2000	58	.25	50	.30
12x24x12	1000	28	.25	25	.30
20x24x12	1650	47	.25	40	.30
20x20x12	1400	39	.25	33	.30
16x20x12	1100	33	.25	33	.30
16x25x12	1400	41	.25	41	.30
24x24x6	1000	29	.13	25	.15
12x24x6	499	14	.13	13	.15
20x24x6	830	24	.13	21	.15
20x20x6	700	19	.13	17	.15
16x20x6	550	17	.13	17	.15
16x25x6	700	24	.13	24	.15

Notes:

1. PD represents clean pressure drop in inches w.g. Recommended final pressure drop for all models is 1.5" w.g.
2. Efficiency is average and is based on ASHRAE Standard 52.1 and 52.2 test methods.
3. Performance tolerances conform to Section 7.4 of ARI Standard 850.
4. Actual filter face size is 5/8" under on height and width. Actual filter depth is 5-7/8" or 11-1/2"
5. Pressure drop values shown are for synthetic media. Glass media approximately 20% greater.
6. Perfmormance values shown in this publication may be averages or estimates intended to generally represent product styles. Contact factory for latest actual test data on specific Flanders Precisionaire models.

Corrosion Resistant Steel Frame



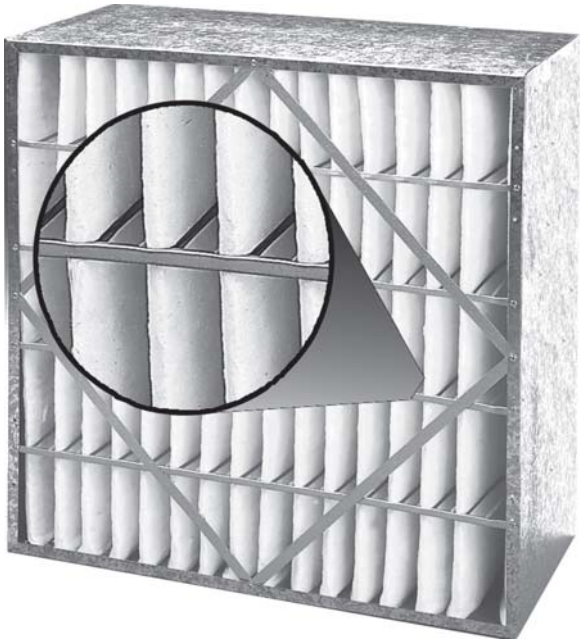
Double Turned flange
for a stronger frame.

Choice of media
Lofted fiberglass or micro-fine synthetic

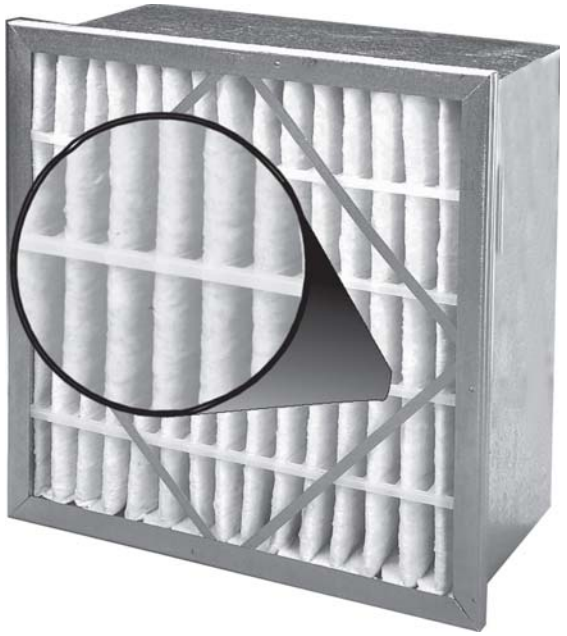
Diagonal support prevent racking.

- 5-7/8" or 11-1/2" depths
- Available with or without header
- Class 1 available with glass media and metal fingers.

Robust Media Support
Expanded metal pleat backng and choice of metal or plastic pleat supports.



Rigid-Air Box Type Filter With Metal Pleat Separators



Rigid-Air Filter with Header and Plastic Pleat Separators

Application Guidelines

Rigid-Air filters may be used wherever job requirements and available space will accommodate 6" or 12" deep filters. Rigid-Air filters should be selected using 24" x 24" and 24" x 12" face sizes. This allows for 12" increments in height and width of the filter bank and insures that replacement cartridges will be readily available.

Rigid-Air filters should be installed with pleats vertical wherever possible. It is permissible to install 24" x 12" face size cartridges with pleats horizontal if necessary to meet the size requirements of the filter bank.

VAV Systems

Filter banks should be sized so that the maximum rated flow at design conditions falls within the published recommended velocities. Rigid-Air filters may be applied at any capacity between zero flow and cataloged capacities.

Hospital Applications

Rigid-Air filters may be used on the downstream side of the supply fan in hospitals if they are far enough from the fan so that the high fan discharge velocity will not affect them. Rigid-Air rigid filters can withstand adverse air flow conditions better than bag filters and are the preferred selection for these applications.

Gasketed Headers

Rigid-Air headered filters installed in Flanders K-Trac Filter Framing Modules or Sureseal Side Access Housings require gaskets on opposite header sides to prevent air bypass.

To specify headered version Rigid-Air filters with gasketed headers, add suffix “SA” (side access), “GU” (upstream), “GD” (downstream) and “GS” (sides) to the model number.

Guide Specifications

1.0 General

1.1 Medium and high efficiency self-supporting filters shall be Rigid-Air lofted fiberglass or micro-fine synthetic media rigid filters as manufactured by Flanders Precisionaire.

1.2 Filter sizes, efficiencies and capacities shall be as scheduled on the drawings.

2.0 Filter Construction

2.1 Filters shall be constructed of lofted micro-fine fiberglass or micro-fine synthetic media laminated to a non-woven backing, bonded to an expanded metal wire grid and pleated to form the filter pack.

2.2 The filter pack shall be strengthened on the air entering and air exiting sides with horizontal and diagonal metal support members.

2.3 The enclosing frame shall be assembled in a rigid manner and shall incorporate a header on the air entering side if required by the application.

2.4 The filter pack shall be sealed into a 24 ga. corrosion-resistant steel casing with metal or plastic pleat separators on the upstream and downstream sides to maintain pleat configuration.

3.0 Performance

3.1 Initial and final resistances shall not exceed the scheduled values.

3.2 Media area must equal or exceed that of the specified filter.

3.3 The average efficiency shall be as determined by the ASHRAE Standard 52.1 test methods.

3.4 The Filter shall meet MERV 10-14 as determined by ASHRAE Standard 52.2 test standards.

3.5 The manufacturer shall guarantee performance as stated in its literature within tolerances as outlined is Section 7.4 of ARI Standard 850.

3.6 Filters to be UL 900 Class 2 or 1 listed.

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Toll Free: 1-800-637-2803

Representative